

3.6 Greenhouse Gas Emissions

This section identifies and evaluates issues related to greenhouse gas (GHG) emissions to determine whether the PCRCP, including its revisions to the 2011 Creek Restoration Plan that are a component of the 2012 Reclamation Plan Amendment, would cause one or more new significant impacts or a substantial increase in the severity of significant impacts than was disclosed in the 2012 EIR. To do this, as explained in Section ES.1, *Introduction*, and in Section 2.3, *Focus of the Supplemental EIR*, including as summarized in Table 2-1, *Specific Areas of Focus for the Supplemental EIR*, this analysis focuses on three things: (1) PCRCP areas that are outside of the existing reclamation plan boundary (for which Grading Approval would be required); (2) PCRCP areas within the reclamation plan boundary and within the 120-acre PCRA but outside of the PCRA's 49.2-acre disturbance area; and (3) more generally, whether the PCRCP would include work at a greater intensity than previously considered in the 2012 EIR. As a result, Reaches 6–13 and Reaches 17 and 18 are key areas for evaluation.¹

This section describes the physical and regulatory setting, the criteria used to evaluate the significance of potential impacts, the methods used in evaluating these impacts, and the results of the impact assessment relative to the 2012 EIR. This analysis is based in part on the Air Quality and Greenhouse Gas Emissions Technical Report (a copy of which is provided in **Appendix D**), which was prepared on the County's behalf. The County received no scoping comments pertaining to GHG emissions (**Appendix A**, *Scoping Report*).

3.6.1 Setting

3.6.1.1 Study Area

The study area for this analysis of potential impacts related to GHG emissions consists of the San Francisco Bay Area Air Basin (SFBAAB), which encompasses all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo and Santa Clara counties, and the southern portions of Solano and Sonoma counties, as well as statewide.

3.6.1.2 Environmental Setting

Section 4.8.1.1 of the Draft 2012 EIR described the environmental setting for the 2012 EIR's consideration of GHG emissions, including information about the effects of climate change and sources of GHG emissions (page 4.8-1 et seq.). These descriptions remain accurate for purposes of this analysis of the PCRCP, except as supplemented or emphasized below.

Climate Change

There is general scientific consensus that climate change is occurring and is almost certainly attributed to human activities. Man-made emissions of GHGs, if not sufficiently curtailed, will

¹ See Section 2.4, *Correlation between 2012 EIR PCRA and the PCRCP*, for a cross reference between the restoration activities described and analyzed in the 2012 EIR and the restoration activities described in the PCRCP and analyzed in this SEIR. Section 2.5, *Permanente Creek Restoration Plan*, details the PCRCP's proposed activities on a reach-by-reach basis.

likely contribute further to continued increases in global temperatures. Strong scientific evidence documents that the climate is changing and that its impacts are widespread and occurring now. In California, this evidence includes increases in extreme heat, wildfires, extreme storms, coastal flooding and erosion, and reductions in Sierra Nevada springtime snowpack and threats to water availability (California Air Resources Board [CARB] 2014). Globally, climate change has the potential to adversely affect numerous environmental resources through potential, although uncertain, impacts related to future air and water temperatures, precipitation patterns, and an array of other factors. According to the Intergovernmental Panel on Climate Change (IPCC), human activities affect all the major climate system components, including (IPCC 2021):

- Changing global surface temperatures.
- Reduction in arctic sea ice area.
- Decreased ocean surface pH (a measure of acidity).
- Increased global mean sea level change.

Also, many secondary effects are projected to result from global warming, including impacts on agriculture, changes in disease vectors, changes in habitat suitability, and potential for reduction of biodiversity. While the possible outcomes and feedback mechanisms involved are not fully understood and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term are great.

Greenhouse Gases

State-regulated GHG emissions that result from human activities primarily include carbon dioxide (CO₂), with much smaller amounts of nitrous oxide (N₂O), methane (CH₄, often from unburned natural gas), sulfur hexafluoride (SF₆) from high-voltage power equipment, nitrogen trifluoride (NF₃) from microelectronics and semi-conductor manufacturing, and hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs) from refrigeration/chiller equipment. Because these GHGs have different warming potentials (i.e., the amount of heat trapped in the atmosphere by a certain mass of the gas), and CO₂ is the most common reference gas for climate change, GHG emissions are often quantified and reported as CO₂-equivalent (CO₂e) emissions. For example, while SF₆ represents a small fraction of the total annual GHGs emitted worldwide, this gas is very potent, with 22,800 times the global warming potential of CO₂. Therefore, an emission of 1 metric ton of SF₆ would be reported as 22,800 metric tons CO₂e. The global warming potential of CH₄ and N₂O are 25 times and 298 times that of CO₂, respectively (CARB 2016).

In 2019, the United States emitted about 6.56 billion tons of CO₂e, representing a 1.7 percent decrease from 2018. This decrease was driven largely by a decrease in emissions from fossil fuel combustion resulting from a decrease in total energy use in 2019 compared to 2018 and a continued shift from coal to natural gas and renewables in the electric power sector. Of the five major sectors nationwide (residential and commercial, industry, agriculture, transportation, and electricity), transportation accounts for the highest fraction of GHG emissions (approximately 29 percent), followed closely by the electric power industry (approximately 25 percent) and general industry (approximately 23 percent) (U.S. EPA 2021).

Statewide emissions of GHG from relevant source categories for 2014 through 2020 are summarized in **Table 3.6-1**. Specific contributions from individual air basins, such as the SFBAAB, which encompasses the Project site, are included in the emissions inventory but are not itemized by air basin. In 2020, California produced 369.1 million gross metric tons of CO₂e emissions, which was a 9 percent drop in emissions compared to 2019 driven by the Covid-19 pandemic-related shutdown. Transportation was the source of 37 percent of the state’s GHG emissions, followed by industrial at 20 percent, electricity generation at 16 percent, commercial and residential sources at 11 percent, agriculture at 9 percent, high global warming potential² at 6 percent, and recycling and waste comprising the remaining 2 percent (CARB 2022a).

**TABLE 3.6-1
 CALIFORNIA GREENHOUSE GAS EMISSIONS (MILLION METRIC TONS CO₂E)**

Emissions Inventory Category	2014	2015	2016	2017	2018	2019	2020	
Transportation	157.7	161.5	165.2	166.6	165.3	162.4	135.8	36.8%
Electric Power	89.8	86.0	70.4	64.2	65.0	60.2	59.5	16.1%
Industrial	85.2	83.2	81.6	81.7	81.9	80.4	73.3	19.9%
Commercial & Residential	35.6	36.3	37.2	37.6	37.4	40.5	38.7	10.5%
Agriculture	33.9	32.6	32.2	31.7	32.2	31.4	31.6	8.6%
High Global Warming Potential	17.7	18.6	19.4	20.1	20.5	20.7	21.3	5.8%
Recycling and Waste	8.3	8.4	8.5	8.6	8.7	8.8	8.9	2.4%
Total Gross Emissions	428.2	426.6	414.5	410.5	411.0	404.4	369.1	100.0%

SOURCE: CARB 2022a.

3.6.1.3 Regulatory Setting

Section 4.8.1.2 of the Draft 2012 EIR (page 4.8-2 et seq.) described the regulatory setting for the analysis of potential impacts related to GHG emissions, including federal, state, and local laws, regulations, plans, and policies applicable to the analysis of the proposed creek restoration and other Project components that were considered in the 2012 EIR. The section summarized the federal Clean Air Act requirements for GHG emissions, the U.S. Environmental Protection Agency’s (U.S. EPA) GHG Reporting Rule, California Executive Order S-3-05, Assembly Bill (AB) 32, the Climate Change Scoping Plan, revisions to the CEQA Guidelines, mandatory and voluntary carbon credits, the Climate Registry, the Bay Area Air Quality Management District’s (BAAQMD) Bay Area 2010 Clean Air Plan, and the *County of Santa Clara Climate Action Plan for Operations and Facilities*. The description of the regulatory setting remains accurate for purposes of this analysis of the PCRFP, except as supplemented or emphasized below.

² The California GHG inventory category High Global Warming Potential includes gas emissions from releases of ozone depleting substance substitutes, SF₆ emissions from electricity transmission and distribution systems, and gases that are emitted in semiconductor manufacturing processes.

Federal

U.S. Environmental Protection Agency (U.S. EPA)

GHGs are air pollutants covered by the Clean Air Act (*Massachusetts v. U.S. EPA* (2007) 549 U.S. 497). Accordingly, the U.S. EPA prescribes (and from time-to-time revises) standards applicable to the emissions of GHGs from new motor vehicles or new motor vehicle engines. The 2012 EIR considered the U.S. EPA's finding that six GHGs, taken in combination, endanger both the public health and the public welfare of current and future generations, and that the combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to the greenhouse effect as air pollution that endangers public health and welfare under Clean Air Act Section 202(a).

Pursuant to 40 Code of Federal Regulations (CFR) Part 52, Proposed Prevention of Significant Deterioration, and Title V Greenhouse Gas Tailoring Rule, U.S. EPA has mandated that Prevention of Significant Deterioration (PSD) and Title V requirements apply to facilities whose stationary source CO₂e emissions exceed 100,000 tons per year (U.S. EPA 2019).

U.S. Supreme Court Decision in Utility Air Regulatory Group v. U.S. EPA

In *Utility Air Regulatory Group v. U.S. EPA* (2014) 573 U.S. 302, the U.S. Supreme Court held that U.S. EPA may not treat GHG emissions as an air pollutant for purposes of determining whether a source is a major source required to obtain a PSD or Title V permit. The Court also held that PSD permits that are otherwise required (based on emissions of other pollutants) may continue to require limitations on GHG emissions based on the application of best available control technology (BACT). In accordance with the Supreme Court decision, on April 10, 2015, the D.C. Circuit issued an amended judgment in *Coalition for Responsible Regulation, Inc. v. U.S. Environmental Protection Agency* (2012) 684 F.3d 102, which vacated the PSD and Title V regulations under review in that case to the extent that they require a stationary source to obtain a PSD or Title V permit solely because the source emits or has the potential to emit GHGs above the applicable major source thresholds. The D.C. Circuit also directed U.S. EPA to consider whether any further revisions to its regulations are appropriate and, if so, to undertake to make such revisions. In response to the Supreme Court decision and the D.C. Circuit's amended judgment, the U.S. EPA intends to conduct future rulemaking action to make appropriate revisions to the PSD and operating permit rules (U.S. EPA 2019).

State

A variety of statewide rules and regulations have been implemented or are in development in California that mandate the quantification or reduction of GHGs. Under CEQA, analysis and mitigation of GHG emissions and climate change in relation to a proposed project is required where the lead agency determines that a project would result in a significant addition of GHGs to the atmosphere. State regulations identified in the 2012 EIR are supplemented with the following information.

Executive Order B-30-15

In April 2015, Governor Edmund G. Brown Jr. issued an executive order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. Reaching this emissions reduction target will make it possible for California to reach its ultimate goal of reducing emissions

80 percent under 1990 levels by 2050, as identified in Executive Order S-3-05. Executive Order B-30-15 also specifically addresses the need for climate adaptation and directs state government to:

- Incorporate climate change impacts into the state's Five-Year Infrastructure Plan.
- Update the Safeguarding California Plan, the state climate adaptation strategy to identify how climate change will affect California infrastructure and industry and what actions the state can take to reduce the risks posed by climate change.
- Factor climate change into state agencies' planning and investment decisions.
- Implement measures under existing agency and departmental authority to reduce GHG emissions (OGB 2015).

Executive Order B-30-15 required CARB to update the AB 32 Climate Change Scoping Plan to incorporate the state's target from 2020 to 2030. CARB adopted the 2017 Scoping Plan for achieving the 2030 target, which takes into account the key programs associated with implementation of the AB 32 Scoping Plan—such as GHG reduction programs for cars, trucks, fuels, industry, and electrical generation—and builds upon, in particular, existing programs related to the Cap-and-Trade Regulation; the Low Carbon Fuel Standard; much cleaner cars, trucks, and freight movement; power generation for the state using cleaner renewable energy; and strategies to reduce methane emissions from agricultural and other wastes by using it to meet the state's energy needs. The 2017 Scoping Plan also addresses, for the first time, GHG emissions from natural and working lands, including the energy, transportation, industry, water, waste management, agriculture, and natural and working lands sectors (CARB 2017). The 2017 Scoping Plan does not address construction or restoration projects such as the PCRFP.

The 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045. The actions and outcomes in the plan are intended to significantly reduce fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon. The 2022 Scoping Plan identifies a construction equipment sector action for the Scoping Plan Scenario that commits to 25 percent of energy demand to be electrified by 2030 and 75 percent electrified by 2045 (CARB 2022b).

Senate Bill 32 and Assembly Bill 197

On August 23, 2016, the California Assembly passed Senate Bill (SB) 32, legislation that would extend California's landmark climate change legislation to require that California reduce its emissions to 40 percent below 1990 levels by 2030, an extension of AB 32's goal to reduce emissions to 1990 levels. SB 32 became fully enacted the next day when AB 197 was passed, as an amendment to SB 32 stated that it would only become operative if AB 197 was enacted. AB 197's key components are the following:

- Direct CARB to incorporate environmental justice and social costs when designing climate change regulations.
- Create a new entity called the Joint Legislative Committee on Climate Change Policies, authorized to do fact-finding and make recommendations to the Legislature regarding the state's climate change programs.
- Make substantial changes to how CARB functions, including increasing the board member size, adjusting the terms of service, and strengthening the board member service disqualification process.
- Decrease CARB's reliance on cap-and-trade to achieve reductions and instead direct CARB to prioritize direct emissions reductions at large stationary sources.

Executive Order B-55-18

In September 2018, Governor Edmund G. Brown Jr. issued Executive Order B-55-18 directing the achievement of carbon neutrality as soon as possible and no later than 2045. Achieving this ambitious goal requires both significant reductions in GHG emissions and removal of CO₂ from the atmosphere, including sequestration in forests, soils, and other natural landscapes. Reaching carbon neutrality requires working across all sectors. Executive Order B-55-18 ordered:

1. A new statewide goal to be established to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter.
2. CARB to work with relevant state agencies to develop a framework for implementation and accounting that tracks progress toward this goal.
3. CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.
4. The California Natural Resources Agency, the California Environmental Protection Agency, CARB, and the California Department of Food and Agriculture to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.
5. All policies and programs undertaken to achieve carbon neutrality to seek to improve air quality and support the health and economic resiliency of urban and rural communities, particularly low-income and disadvantaged communities.
6. All policies and programs undertaken to achieve carbon neutrality to be implemented in a manner that supports climate adaptation and biodiversity, including protection of the state's water supply, water quality, and native plants and animals.
7. State agencies to engage the support, participation, and partnership of universities, businesses, investors, and communities, as appropriate, to achieve the goals contained in this order.

Advanced Clean Truck Regulation

The Advanced Clean Truck Regulation is part of a holistic approach to accelerate a large-scale transition of zero-emissions medium-and heavy-duty vehicles from Class 2b to Class 8. The regulation has two components including a manufacturer sales requirement and a reporting requirement (CARB 2021):

- **Zero-emissions truck sales:** Manufacturers who certify Class 2b-8 chassis or complete vehicles with combustion engines would be required to sell zero-emissions trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emissions truck/chassis sales would need to be 55 percent of Class 2b to 3 truck sales, 75 percent of Class 4 to 8 straight truck sales, and 40 percent of truck tractor sales.
- **Company and fleet reporting:** Large employers including retailers, manufacturers, brokers, and others are required to report information about shipments and shuttle services. Fleet owners with 50 or more trucks are required to report about their existing fleet operations. This information will help identify future strategies to ensure that fleets purchase available zero-emissions trucks and place them in service where suitable to meet their needs.

Local

Bay Area Air Quality Management District

The BAAQMD lays the groundwork for GHG emissions reductions through the 2017 Clean Air Plan (2017 CAP). The 2017 CAP provides a long-term vision of how the Bay Area could function in a year 2050 post-carbon economy and describes a control strategy to be implemented by BAAQMD. The 2017 CAP also includes measures to reduce GHG emissions; however, the measures do not address construction or restoration projects such as the PCRCP (BAAQMD 2017a).

County of Santa Clara

In September 2009, the County released its *County of Santa Clara Climate Action Plan for Operations and Facilities* (County of Santa Clara 2009). This plan presented several solutions and policies that focus on County operations, facilities, and employee actions to reduce GHG emissions associated with energy and water consumption, solid waste, and fuel consumption. Since the plan focuses primarily on steps needed to reach the 10 percent reduction (13,346 metric tons) goal by 2015, it is now outdated. In addition, this plan applies to County government operations and facilities only, and thus it would not pertain to the PCRCP.

On December 18, 2018, the Board of Supervisors of the County of Santa Clara adopted Resolution BOS-2018-145 to reaffirm and augment the County's GHG emissions reduction targets and establish a 100 percent carbon neutral by 2045 commitment for County of Santa Clara operations (County of Santa Clara 2018). The resolution applies to County government operations and facilities only; it would not pertain to the PCRCP.

3.6.2 Significance Criteria

Consistent with the County of Santa Clara Environmental Checklist and the version of the CEQA Guidelines Appendix G Environmental Checklist that was in effect at the time, Section 4.8 of the 2012 EIR determined that the Reclamation Plan Amendment, including creek restoration work within the PCRA, would have a significant impact if it would:

- a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

- b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG.

Updates to the CEQA Guidelines Appendix G Environmental Checklist that were finalized in December 2018 made no revisions to these significance criteria. Accordingly, these criteria remain relevant to this SEIR's consideration of whether the PCRCP would cause any new significant impacts or a substantial increase in the severity of significant impacts than were disclosed in the 2012 EIR.

3.6.3 Direct and Indirect Effects

3.6.3.1 Methodology

Greenhouse Gas Emissions

Significance Thresholds

The 2012 EIR relied on the methods and significance threshold identified in the BAAQMD's 2010 CEQA Guidelines as supported by Appendix D of the BAAQMD Guidelines and BAAQMD's Revised Draft Options and Justification Report. After adoption of the 2012 EIR, the BAAQMD updated its CEQA Guidelines in 2017 to address the California Supreme Court's opinion in *California Building Industry Association v. BAAQMD* (2015) 62 Cal.4th 369, regarding analysis of exposure of new sensitive receptors to toxic air pollution and odors. However, the methods and GHG emissions significance criteria were not updated—the methods and significance criteria identified in the 2017 BAAQMD CEQA Guidelines for GHG emissions are the same as those identified in the 2010 BAAQMD CEQA Air Quality Guidelines (BAAQMD 2010) and used in the 2012 EIR.

In accordance with the BAAQMD CEQA Air Quality Guidelines, the 2012 EIR considered implementation of the Reclamation Plan Amendment to have a significant impact if it would emit GHG emissions greater than the BAAQMD's significance threshold of 1,100 metric tons per year CO₂e from operational sources other than permitted stationary sources.³ The 1,100 metric tons CO₂e per year significance threshold was designed for the BAAQMD to meet the AB 32 goal of reducing GHG emissions to 1990 levels by 2020 by accounting for the Bay Area's share of land use sector GHG emissions reductions beyond the amount determined to be achievable at the state level. It is based on the AB 32 GHG reduction goals and a "gap analysis" that attributes an appropriate share of GHG emissions reductions to new land use development projects in the BAAQMD's jurisdiction. In 2022, the BAAQMD adopted CEQA Thresholds for Evaluating the Significance of Climate Impacts due to operations of Land Use Projects and Plans; however, those thresholds focus on residential and commercial projects, and do not address construction emissions such as those that would be generated by the PCRCP. The BAAQMD has not yet developed a corresponding mass emissions threshold that extends beyond 2020 to be aligned with the SB 32 target for 2030. Although use of the 1,100 metric tons CO₂e significance threshold was appropriate at the time of the 2012 EIR certification, that threshold is no longer appropriate for

³ The 2012 Reclamation Plan Amendment did not propose any new or expanded stationary sources that emit GHGs.

analyzing the long-term GHG emissions of post-2020 proposed projects without an adjustment to be consistent with SB 32.

The PCRCP would not involve long-term operational emissions, and short-term construction emissions would cease in 2027. AB 32 includes a statewide GHG reduction target to achieve 1990 levels by the year 2020, while SB 32 extends the statewide target to a reduction of 40 percent below 1990 levels by 2030. An appropriate threshold for PCRCP is one that is adjusted to account for the SB 32 target, recognizing that important state initiatives (most notably, the vehicle fuel efficiency standards and the Renewables Portfolio Standard) are scheduled to reduce emissions substantially as the decade progresses. The most conservative approach would be to use a threshold based on the 2030 target, which would be consistent with a 2016 white paper by the Association of Environmental Professionals (AEP) Climate Change Committee recommendation that when a project is built out before the next milestone target year adopted by the state, the milestone year should be used as the basis for the project-level threshold (AEP 2016). Note that the AEP white paper is advisory only and is not binding guidance or an adopted set of CEQA thresholds.

Because BAAQMD has not adopted GHG-related CEQA significance thresholds for the SB 32 horizon year of 2030 that are relevant to the Project, and the County does not currently have a “qualified” GHG reduction strategy available, a specific Project-level threshold has been identified consistent with CEQA Guidelines Section 15064.4.⁴ The 2020 mass emissions threshold is adjusted downward by 40 percent to be consistent with the 2030 SB 32 horizon year target, as shown below. Nevertheless, because the significance threshold used in the 2012 EIR was appropriate at the time of its certification, the total 2012 Reclamation Plan Amendment emissions, as revised to include the proposed PCRCP emissions, are evaluated in this analysis using the 1,100 metric tons CO₂e significance threshold. For informational purposes, the proposed PCRCP incremental emissions beyond the emissions estimated for the 2012 Reclamation Plan Amendment in the 2012 EIR are also compared to the adjusted 2030 emissions threshold that is 40 percent below the 2020 mass emissions threshold of 1,100 metric tons CO₂e per year, which is equivalent to 660 metric tons CO₂e per year.

The significance thresholds discussed above are designed for long-term operational emissions. Because the PCRCP would result in short-term activities to restore and modify approximately 9,000 linear feet of Permanente Creek and would not involve long-term operations, its total short-term emissions were amortized over the 20-year life of the 2012 Reclamation Plan Amendment (see 2012 EIR Section 2.1) before comparison to the significance thresholds.

Emissions Estimates

Project-related GHG emissions typically fall into two categories: short-term emissions due to construction, and long-term emissions due to project operations; however, for the PCRCP, GHG emissions would be generated on a short-term basis during construction over a period of

⁴ A qualified GHG reduction plan is a previously adopted plan or mitigation program that a lead agency may use to determine that a project’s incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements of the plan and the plan was prepared pursuant to the requirements of CEQA Guidelines Section 15183.5.

approximately 6 years, and there would be no long-term sustained operational emissions. The PCRP would generate GHG exhaust emissions from construction equipment and vehicles. The construction-related scheduling, equipment, and trips assumptions and methods used to estimate GHG emissions associated with the PCRP are generally the same as those described for the air quality analysis in Section 3.1 (see *Criteria Pollutants Emissions* in Section 3.1.3.1, *Methodology*, and Appendix D, Exhibit A). To estimate CO₂e emissions, global warming potentials from the IPCC Fourth Assessment Report (AR4) were applied to the CH₄ and N₂O emissions.

As with the criteria pollutants, the modeled GHG emissions for each construction phase were multiplied by the percent of emissions to be evaluated for the given construction phase based on the proposed creek reach area outside of the previously evaluated 2012 EIR disturbance areas to allow for evaluation of the applicable emissions (see *Emissions Applicability Factors* in Section 3.1.3.1, *Methodology*, and Appendix D, Exhibit A). Calculated emissions then were summed, amortized over the 20-year life of the 2012 Reclamation Plan Amendment, and added to the baseline emissions (see Section 3.6.3.2, *Baseline*) for comparison to BAAQMD's regional significance threshold to determine if the PCRP would have the potential for new significant direct, indirect, and/or cumulative environmental effects compared with the 2011 Creek Restoration Plan previously analyzed in the 2012 EIR. The incremental amortized PCRP emissions also are compared to the adjusted emissions threshold (refer to *Significance Thresholds* discussion above). Detailed emissions assumptions and summaries, including the California Emissions Estimator Model (CalEEMod) and EMFAC2021 assumptions and output, are included in Appendix D, Exhibit A.

Conflicts with Applicable Plans, Policies, or Regulations

The BAAQMD CEQA Guidelines state that a project or plan that is consistent with an adopted GHG reduction strategy would be considered to have a less-than-significant impact. As noted above in Section 3.6.1.3, *Regulatory Setting*, the state has adopted the 2017 Scoping Plan and the 2022 Scoping Plan, the BAAQMD has adopted the 2017 CAP, and the County has adopted a Climate Action Plan for reducing GHG emissions. These plans, however, are not applicable to emissions generated by projects such as the PCRP.

Regarding SB 32, California's climate change legislation updated to require California to reduce its emissions to 40 percent below 1990 levels by 2030, PCRP's consistency with this goal is addressed through the comparison of its estimated incremental emissions to the adjusted significance threshold of 660 metric tons CO₂e (see *Significance Thresholds*, above).

3.6.3.2 Baseline

Section 3.0.1, *Environmental Baseline*, explains that, in the context of an SEIR, the CEQA baseline is adjusted such that the originally approved project is assumed. Therefore, the baseline used in this analysis to evaluate the impacts of the PCRP and alternatives consists of existing environmental conditions plus the 2012 Reclamation Plan Amendment and 2012 EIR, and the creek restoration plans evaluated therein, as well as the approved 2012 EIR mitigation measures

that are conditions of the 2012 Reclamation Plan Amendment approval. For purposes of this analysis of potential impacts related to GHG emissions, the baseline is described below.

2012 EIR Baseline

The baseline for the 2012 EIR reflects the same physical environmental conditions in the vicinity of the PCRP as identified in Section 3.1.3.2 for the air quality analysis. The baseline GHG emissions identified in the 2012 EIR analysis are based on an average over the 11-year period from January 1, 2000, to December 31, 2010, which includes periods of relatively high production as well as relatively low production at the Permanente Quarry in response to changing market demands. The annual 2012 EIR baseline GHG emissions are shown in **Table 3.6-2**.

**TABLE 3.6-2
 2012 RECLAMATION PLAN AMENDMENT MAXIMUM ANNUAL GHG EMISSIONS (METRIC TONS/YEAR)**

Scenario	CO ₂	CH ₄	N ₂ O	Total CO ₂ e
Baseline Emissions	15,707	<1	<1	15,842
2012 Reclamation Plan Amendment Emissions	20,587	1	<1	20,762
Maximum Annual Incremental Change	4,880	<1	<1	4,920
BAAQMD Threshold	--	--	--	1,100
Significant Impact (Yes or No)?	--	--	--	Yes

SOURCE: Draft 2012 EIR Section 4.8.5, Table 4.8-2.

2012 Emissions and Analysis

Baseline and maximum annual 2012 Reclamation Plan Amendment GHG emissions are summarized in Table 3.6-2, and the net change is compared to the BAAQMD annual significance threshold. As shown in Table 3.6-2, the 2012 Reclamation Plan Amendment was found to result in net GHG emissions that would exceed the significance threshold, and therefore was disclosed to result in a significant impact.

3.6.3.3 Direct and Indirect Effects of the Project

The analysis in this section evaluates the potential significance of the change in the physical environment that would be caused by implementation of the PCRP relative to the baseline condition, compares that impact conclusion with the impact conclusion reached in the 2012 EIR regarding the same consideration, and then makes a determination as to whether the implementation of the PCRP would cause one or more new significant impacts or a substantial increase in the severity of significant impacts than were disclosed in the 2012 EIR. For the reasons discussed below, implementation of the PCRP would not cause a new significant impact or a substantial increase in the severity of a significant impact than was disclosed in the 2012 EIR.

Impact 3.6-1: The PCRCP could result in an increase in greenhouse gas emissions and contribute to climate change.

This impact analysis corresponds to significance criterion a) as set forth in Section 3.6.2 and addresses PCRCP-generated GHG emissions that could contribute to climate change. In the context of Impact 4.8-1 (page 4.8-11 et seq.), the 2012 EIR concluded that interim reclamation activities, including those proposed within the PCRA, would result in net GHG emissions that would exceed the 1,100 metric tons per year threshold established by BAAQMD and would be significant; however, the significant impact was found to be reduced to a less-than-significant level with implementation of Mitigation Measures 4.8-1a and 4.8-1b. Mitigation Measure 4.8-1a required the preparation of an annual GHG emissions inventory for the 2012 Reclamation Plan Amendment, and Mitigation Measure 4.8-1b required the preparation and implementation of a GHG Emissions Reduction Plan containing quantifiable strategies to ensure that the 2012 Reclamation Plan Amendment-related incremental increase of GHG emissions do not exceed 1,100 metric tons CO₂e per year. For the reasons discussed below, the PCRCP would not cause a new significant impact or a substantial increase in the severity of a significant impact related to significance criterion a).

As presented in the *Emissions Estimates* discussion in Section 3.6.3.1, *Methodology*, the GHG emissions that would be generated by the PCRCP would be short term and periodic in nature and would occur during the dry seasons of 2024 through 2029. Below are summaries of the PCRCP GHG emissions estimate results in terms of applicable PCRCP emissions estimates compared to the CEQA baseline. For summaries of the total PCRCP emissions estimates by phase prior to and after the use of applicability factors to remove the emissions considered to have already been evaluated in the 2012 EIR, refer to Appendix D. It should be noted that current equipment and vehicle fleets operate more efficiently and generate fewer GHG emissions than those that were in place in 2012.

PCRCP Emissions Compared to CEQA Baseline

Table 3.6-3 presents the net annual PCRCP emissions that were not evaluated in the 2012 EIR combined with the 2012 Reclamation Plan Amendment maximum annual incremental change emissions disclosed in 2012 EIR. As shown in the table, the PCRCP amortized emissions would not be substantial in comparison to the maximum annual emissions disclosed in the 2012 EIR—the PCRCP amortized emissions would slightly increase the net total maximum annual emissions by approximately 9 percent.

**TABLE 3.6-3
MAXIMUM ANNUAL NET GHG EMISSIONS (METRIC TONS/YEAR)**

Scenario	CO ₂	CH ₄	N ₂ O	Total CO ₂ e
2012 Reclamation Plan Amendment Maximum Annual Incremental Change Disclosed in 2012 EIR*	1,060	<1	<1	1,100
PCRP Amortized Emissions not Evaluated in the 2012 EIR	87.94	<1	<1	90.14
Net Emissions	1,148	<1	<1	1,190
Net Emissions with Incorporation of 2012 EIR Mitigation Measures 4.8-1a and 4.8-1b	---	---	---	1,100
BAAQMD Threshold	---	---	---	1,100
Significant Impact (Yes or No)?				No

NOTES:

* 2012 Reclamation Plan Amendment emissions reflect implementation of 2012 EIR Mitigation Measures 4.8-1a and 4.8-1b.

SOURCE: Draft 2012 EIR Section 4.8.5, Table 4.8-2, and Appendix D, Exhibit A.

Impact Conclusion

With the continued implementation of 2012 EIR Mitigation Measures 4.8-1a and 4.8-1b pursuant to baseline conditions, implementation of the PCRP would result in revised 2012 Reclamation Plan Amendment emissions that would not exceed the BAAQMD’s annual operational significance threshold of 1,100 metric tons CO₂e per year, and the impact would be less than significant (see Table 3.6-3). In addition, the proposed PCRP incremental amortized emissions would be substantially less than the adjusted significance threshold of 660 metric tons CO₂e per year, indicating that the proposed PCRP would be aligned with the SB 32 emissions reduction target for 2030. Accordingly, no new mitigation measures are merited or recommended. Further, the PCRP would cause **no new significant impact and no substantial increase in the severity of a significant impact** than was disclosed in the 2012 EIR.

Baseline Mitigation from 2012 EIR: Mitigation Measures 4.8-1a and 4.8-1b. The text of each is provided in Draft SEIR Table H1, *Impacts and Mitigation Measures for the 2012 Permanente Quarry Reclamation Plan Amendment*.

Additional Mitigation: None required.

Impact 3.6-2: The PCRP would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG.

As noted above in Section 3.6.1.3, *Regulatory Setting*, the state has adopted the 2017 Climate Change Scoping Plan, the BAAQMD has adopted the 2017 CAP, and the County has adopted a Climate Action Plan for reducing GHG emissions. These plans, however, are not applicable or have limited applicability to emissions generated by projects such as the PCRP. Regarding SB 32, the PCRP’s consistency with this goal is addressed through the comparison of its estimated incremental emissions to the adjusted significance threshold of 660 metric tons CO₂e per year.

Also, the 2017 Climate Change Scoping Plan includes a mobile source strategy that relies on the implementation of the federal phase 2 standards for medium- and heavy-duty vehicles and deploying increasing numbers of zero-emissions trucks primarily for classes 3 through 7 last-mile delivery trucks. While these strategies are not applied at a project-level, truck fleets would be subject to regulations adopted pursuant to these strategies including those truck fleets used to transport materials to and from the Project site.

In addition, the 2022 Scoping Plan identifies a construction equipment sector action for the Scoping Plan Scenario that commits to 25 percent of energy demand to be electrified by 2030 and 75 percent electrified by 2045. A similar commitment is not proposed for the PCRCP-related construction equipment. However, the PCRCP would be completed prior to the 2030 compliance date associated with the construction equipment sector action; therefore, it would not be directly applicable to the PCRCP.

In summary, the PCRCP would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Therefore, no impact would result and implementation of the PCRCP would result in **no new significant impact** and **no substantial increase in the severity of a significant impact** than was disclosed in the 2012 EIR.

Baseline Mitigation from 2012 EIR: None required.

Additional Mitigation: None required.

3.6.4 Cumulative Analysis

The Draft 2012 EIR analyzed potential cumulative effects in Section 6.2.8, *Greenhouse Gas Emissions* (page 6-22), concluding that the 2012 Reclamation Plan Amendment, including creek restoration within the PCRA, would not result in a cumulatively considerable contribution to any significant cumulative effect with implementation of Mitigation Measures 4.8-1a and 4.8-1b. For the reasons discussed below, the PCRCP would cause **no new significant impact** and **no substantial increase in the severity of a significant impact** in the cumulative context than was disclosed in the 2012 EIR.

GHG emissions-related impacts are by their nature exclusively cumulative impacts; there are no non-cumulative GHG emissions impacts from a climate change perspective. Thus, the analysis and conclusions provided in Section 3.6.3, *Direct and Indirect Effects*, for Impacts 3.6-1 and 3.6-2 also are the cumulative effects analysis of GHG emissions. In summary, PCRCP emissions of GHGs would be less than significant with the ongoing implementation of the 2012 EIR mitigation measures (see Impact 3.6-1), and the Project would not conflict with any plans, policies, or regulations to reduce GHGs (see Impact 3.6-2). Thus, the PCRCP would not result in a cumulatively considerable contribution to a cumulative GHG emissions impact.

Baseline Mitigation from 2012 EIR: Mitigation Measures 4.8-1a and 4.8-1b. The text of each is provided in Draft SEIR Table H1, *Impacts and Mitigation Measures for the 2012 Permanente Quarry Reclamation Plan Amendment*.

Additional Mitigation: None required.

3.6.5 References

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